

Appl. No.: 10/756,855

Amdt. Dated May 2, 2006

Response to Office Action Mailed February 3, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in this application.

1. (Currently Amended) An electric distance meter, which irradiates measuring light to an object to be measured and measures a distance from a phase difference between the measuring light reflected by the object and internal reference light, comprising:

a device configured to generate a modulation signal for ~~modulating the measuring the distance light which is irradiated to the object to be measured;~~

a pulse signal generation device configured to ~~periodically generate an intermittent a pulse signal, which emits the for generating intermittent modulated measuring light as pulsed light by intermittently adding said modulation signal to a light emitting element;~~

an AND circuit, which overlaps the modulation signal to only an interval of the pulse signal:

a driver circuit, which drives ~~the a~~ light emitting element based on a signal from the AND circuit to emit as the measuring light based on a signal from the AND circuit;

a frequency signal generation device configured to generate an internal frequency signal with a frequency different from said modulation signal;

a mixing circuit, which mixes the pulse signal of the measuring light reflected from the object and the internal frequency signal, and generates a beat signal ~~of~~ comprising the pulse signal as an intermittent difference frequency signal;

a sampling circuit, which samples the interval of the pulse signal ~~a signal generation period~~ of the intermittent difference frequency signal ~~with~~ at a predetermined interval;

a storing device configured to store sampling data; and

an arithmetic logical unit, which calculates the distance from a phase difference between a sine wave curve based on the sampling data of the reflected measuring light stored in the storing device and a sine wave curve based on the sampling data obtained through a reference optical path.

2. (Cancelled).

3. (Currently Amended) The electric distance meter according to Claim 1, further comprising a processing circuit which averages ~~the~~ a signal generation period of said intermittent difference frequency signal, wherein the sampling circuit samples ~~the~~ a signal averaged by the averaging processing circuit, and the storing device stores the sampling data,

and said arithmetic logical unit calculates the phase difference based on the sampling data stored in the storing device.

4. (Cancelled).

5. (Currently Amended) The electric distance meter according to ~~Claim 4~~, Claim 1, wherein said sampling data is integrated for a plurality of periods of said intermittent difference frequency signal, and said arithmetic logical unit generates said sine wave curve based on the data integrated for the plurality of periods.

6. (Currently Amended) The electric distance meter according to ~~Claim 4~~, Claim 1, wherein said arithmetic logical unit collects noise in a non-generation period of the intermittent

pulse signal by said intermittent pulse signal generation device as sampling noise data, generates a noise curve based on the sampling noise data, and corrects the sine wave curve by obtaining a difference of said noise curve from the sine wave curve obtained by sampling said signal generation period.

7. (Cancelled).

8. (Previously Presented) The electric distance meter according to Claim 1, wherein said intermittent difference frequency signal is generated by inputting said internal frequency signal directly to a light receiving element.